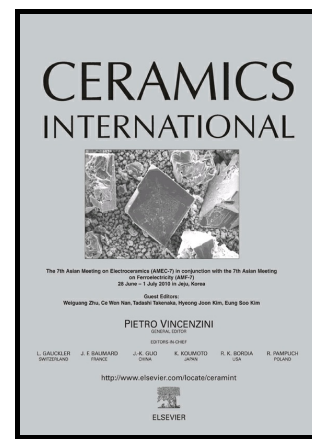


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Screen printed carbon nanotube thick film on alumina substrate

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Abstract

In the present study, the properties of screen printed multiwalled carbon nanotube(MWCNT) thick film on alumina substrate has been reported. Adherent thick film of thickness 10 μm was obtained for the first time by the screen printing method. Thermo gravimetric and differential thermal analysis shows that carbon nanotubes were thermally stable in nitrogen atmosphere upto 750⁰C. X ray diffraction pattern shows two characteristic peaks at about 26.5⁰ and 54.7⁰, corresponding to (002) and (004) reflections of graphite structure, respectively. Due to the functionalization process agglomeration of MWCNT was reduced and mesh like surface morphology with non-uniform surface was observed by scanning electron micrograph. The calculated values of real and imaginary microwave permittivity of MWCNT thick film from the straight resonator overlay method are 6.6 and 17.6 respectively

Graphical abstract

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